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EXAMINER

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ERNST ENGLER and GERHARD TIEDTKE

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Appeal 2009-010171  
Application 10/702,422  
Technology Center 1600

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Decided: February 5, 2010

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Before DONALD E. ADAMS, ERIC GRIMES, and LORA M. GREEN,  
*Administrative Patent Judges.*

GRIMES, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to an aqueous dispersion composition. The Examiner has rejected the claims as obvious. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

The Specification discloses “a stable aqueous dispersion of a low-melting, water-insoluble organic solid” (Spec. 1), where the low-melting,

water-insoluble organic solid is preferably the biocide 4,5-dichloro-2-octyl-3(2H)-isothiazolone (“DCOIT”) (*id.* at 2).

Claims 1, 3-8, and 10 are on appeal. Claim 1 is representative and reads as follows:

1. An aqueous composition comprising from 15 to 30% of 4,5-dichloro-2-octyl-3(2H)-isothiazolone, at least one inorganic filler, at least one surfactant and no more than 5% organic solvent; said composition being stable with regard to agglomeration and phase separation for at least three months at room temperature.

The claims stand rejected under 35 U.S.C. § 103(a) as follows:

- Claims 1 and 3-8 in view of Mattox ‘274,<sup>1</sup> Mattox ‘565,<sup>2</sup> and Payne;<sup>3</sup> and
- Claims 1, 3-8, and 10 in view of Mattox ‘274, Mattox ‘565, Payne, Kostansek<sup>4</sup> and Gerigk.<sup>5</sup>

## OBVIOUSNESS I

### *Issue*

The Examiner has rejected claims 1 and 3-8 under 35 U.S.C. § 103(a) as being obvious in view of Mattox ‘274, Mattox ‘565, and Payne. The claims have been argued in three groups: claims 5 and 6 stand or fall with claim 1, claim 7 stands or falls with claim 3, and claim 8 stands or falls with claim 4. 37 C.F.R. § 41.37(c)(1)(vii).

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<sup>1</sup> Mattox, US 4,906,274, Mar. 6, 1990

<sup>2</sup> Mattox, EP 0490565 A1, June 17, 1992

<sup>3</sup> Payne, WO 95/00019, Jan. 5, 1995

<sup>4</sup> Kostansek et al., EP 1060667 A2, Dec. 20, 2000

<sup>5</sup> Gerigk et al., US 5,332,430, July 26, 1994

The Examiner finds that Mattox '274 "discloses compositions containing 0.1-99.9% of 3-isothiazolones (including DCOIT), 0.1-99.9% of an orthoester stabilizer and 0-99.8 % of an organic solvent.... [Mattox] '274 discloses many uses of the composition including its use as a preservative in aqueous dispersions and coating emulsions (e.g. paints)." (Ans. 4.) The Examiner finds that Mattox '565 discloses compositions comprising DCOIT, a copper salt, and optionally an organic solvent and the use of "from 0.01 to 30 weight of the a-c composition ... in water with an emulsifier" (*id.* at 4-5). The Examiner concludes that it "would have been obvious to one with skill in the art that since aqueous isothiazolone compositions of [Mattox] '565 were disclosed as having from 0.01 to 30 weight of isothiazolone, organic solvent and copper salt ... the aqueous applications contemplated for use in '274 could also use the same amount of the above ingredients in the aqueous dispersions disclosed" (*id.* at 5).

Appellants contend that the prior art discloses only broad ranges that would not have suggested 15-30% of DCOIT and no more than 5% organic solvent, as recited in the claims (Appeal Br. 10-11).

The issue with respect to this rejection is: Does the evidence of record support the Examiner's conclusion that the references suggest a composition having 15 to 30% of DCOIT and no more than 5% organic solvent?

### *Findings of Fact*

1. Mattox '274 discloses 4,5-dichloro-2-octyl-3(2H)-isothiazolone (DCOIT) (Mattox '274, col. 1, l. 35).
2. Mattox '274 discloses "a composition which contains from about 0.1 to about 99.9 parts of one or more isothiazolones and an effective

amount of an orthoester ..., preferably, an orthoester in the range of from 0.1 to about 99.9 percent” (*id.* at col. 2, ll. 23-27).

3. Mattox ‘274 discloses that solvents can be present in an amount of 0-99.8% (*id.* at col. 2, ll. 40-46).

4. Mattox ‘274 discloses “packag[ing] the isothiazolone with only the stabilizer and no other organic solvent or water present” (*id.* at col. 2, ll. 48-49).

5. Mattox ‘274 discloses that “[i]sothiazolones are used as ... preservatives for aqueous dispersions” (*id.* at col. 4, ll. 58-60).

6. Mattox ‘274 discloses that its compositions are useful as preservatives for paints (*id.* at col. 4, l. 67 to col. 5, l. 10).

7. Mattox ‘565 discloses a composition comprising an isothiazolone, copper compounds, and optionally, an organic solvent (Mattox ‘565 2: 42 to 3: 8).

8. Mattox ‘565 discloses 4,5-dichloro-2-octyl-3(2H)-isothiazolone (DCOIT) (*id.* at 3: 28-29).

9. Mattox ‘565 discloses that the isothiazolone and copper compound can be used in ratios of 0.01 to 50 parts of isothiazolone to 0.0001 to 10 parts of copper compound (*id.* at 3: 42-43).

10. Mattox ‘565 discloses that “[c]ompositions containing from 0.01 to 30% by weight of the compositions of the invention, water and an emulsifier are also envisaged” (*id.* at 3: 24-26) .

11. Mattox ‘565 discloses that the compositions are useful as mildewcides for paints. The isothiazolone and copper compound may be separately blended into the paint to be stabilized or, preferably, the isothiazolone and the copper compound, with or without organic solvent, may be

precombined into a single package or solution before being added to the paint to be stabilized.

(*Id.* at 4: 1-4.)

12. Mattox '565 discloses latex (water-based) paint compositions containing 3-isothiazolone stabilized with copper salts, "Ti-Pure R-902," and "Attagel 50" (*id.* at 6:16-51).

13. The Examiner finds that Ti-Pure R-902 is "a known titanium dioxide pigment" and Attagel 50 is "a known clay material" that contains kaolin (Ans. 5). Appellants do not dispute these findings.

### *Principles of Law*

"[W]here there is a range disclosed in the prior art, and the claimed invention falls within that range, there is a presumption of obviousness. But the presumption will be rebutted if it can be shown: (1) That the prior art taught away from the claimed invention, *In re Geisler*, 116 F.3d 1465, 1471 (Fed. Cir. 1997); or (2) that there are new and unexpected results relative to the prior art, *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990)." *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1322 (Fed. Cir. 2004).

"It is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456 (CCPA 1955).

### *Analysis*

Claim 1 is directed to an aqueous composition comprising from 15 to 30% of DCOIT, an inorganic filler, a surfactant, and no more than 5% organic solvent. Claim 1 also requires that the composition is stable with regard to agglomeration and phase separation for at least three months at room temperature.

Mattox '274 discloses a composition comprising DCOIT, an orthoester stabilizer, and optionally a solvent, and teaches that the composition can be used in an aqueous dispersion. Mattox '565 discloses DCOIT formulated with a copper compound as a stabilizer and optionally a solvent. Mattox '565 also discloses an aqueous dispersion formulated with an emulsifier and 0.01 to 30% by weight of the DCOIT/copper compound formulation, and discloses paint compositions as aqueous dispersions that contain an inorganic filler (titanium dioxide). In view of these disclosures, it would have been obvious to one of ordinary skill in the art to formulate an aqueous paint composition comprising DCOIT in the amount recited in claim 1 and a stabilizer, with or without a solvent, and further comprising an emulsifier (surfactant) and titanium dioxide (inorganic filler).

Appellants contend that “the references disclose a genus in which the isothiazolone and solvent concentrations are very broadly defined. This is in contrast to the present claims, which disclose a species comprising a specific combination of concentrations and ingredients which has been shown to produce a stable aqueous dispersion.” (Appeal Br. 10.) Appellants argue that “there is nothing in the references which suggests Appellants’ claimed parameters or even suggests that one could prepare the claimed stabilized aqueous dispersion” (Appeal Br. 11).

This argument is not persuasive. Mattox '274 expressly suggests isothiazolone-containing compositions that contain no organic solvent (FF 4); i.e., less than 5% organic solvent as recited in claim 1. In addition, both Mattox references suggest aqueous dispersions with DCOIT, and Mattox '565 expressly suggests aqueous dispersions containing a mixture of isothiazolone and copper stabilizer in an amount of 0.1 to 30% by weight.

There is a presumption of obviousness where, as here, there is a range disclosed in the prior art and the claimed invention falls within that range. *See Iron Grip Barbell*, 392 F.3d at 1322. Appellants have not presented argument or evidence sufficient to rebut the presumption of obviousness.

Claim 3 depends from claim 1 and further requires that the composition contains 18-25% of DCOIT. Appellants argue that “[t]here is no disclosure in the prior art which suggests th[is] combination[ ] of features” (Appeal Br. 10).

This argument is not persuasive for the reasons discussed above: The claimed range of DCOIT falls within the prior art range and Appellants have not presented argument or evidence sufficient to rebut the presumption of obviousness.

Appellants also argue that the references do not suggest “limit[ing] the inorganic filler to ‘titanium dioxide and kaolin in a total amount from 6% to 10%,’ and further limit[ing] the amount of organic solvent to no more than 2%” (Appeal Br. 10), as required by claim 4.

This argument is not persuasive. Both Mattox ‘274 and Mattox ‘565 disclose that solvent is optional and thus, suggest no more than 2% solvent. Further, Appellants do not dispute the Examiner’s findings that the paint composition disclosed by Mattox ‘565 includes both titanium dioxide and kaolin. In accord with *In re Aller*, one of skill in the art would routinely optimize conventional paint components depending on the intended end use of the paint.



*Conclusion of Law*

The evidence of record supports the Examiner's conclusion that the references suggest a composition containing 15 to 30% DCOIT and no more than 5% organic solvent.

OBVIOUSNESS II

The Examiner has rejected claims 1, 3-8, and 10 under 35 U.S.C. § 103(a) as being obvious in view of Mattox '274, Mattox '565, Payne, Kostansek and Gerigk.

Because we have concluded that claim 1 would have been obvious in view of Mattox '274, Mattox '565, and Payne, as discussed above, we also affirm the rejection of claim 1 based on Mattox '274, Mattox '565, Payne Kostansek and Gerigk. Claims 3-8 and 10 have not been argued separately and therefore fall with claim 1. 37 C.F.R. § 41.37(c)(1)(vii).

SUMMARY

We affirm the rejection of claims 1, 3-8, and 10 under 35 U.S.C. § 103(a).

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

Appeal 2009-010171  
Application 10/702,422

lp

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